

vitality of the shrub anywhere. In localities where the season is particularly hard upon it this shrub needs intelligent care given to it. It should be annually enriched to give the bush luxuriance and vigor. It should be mulched, and if a long spell of dry summer weather sets in it should have plenty of water given to it. It will do well in trying climates where these aids are given it.

Miscellaneous Queries.—“Do plant lice hatch out of ant eggs?”

No. Many have noticed that ants and plant lice are frequently on the same plant. Entomologists tell us that the plant lice secrete a sweetish fluid, and the ants get after that. In other words the lice live from off the plant and the ants live from off the plant lice.

“I saw a direction where boiling water should be poured over Canna seed and the seeds then soaked 24 hours. Should the water be kept boiling hot all this time?”

No, again. Boiling water is poured on unfilled Canna seeds to crack the hard shells. It takes a little time for the crack to open enough for the water to soak through. By this time it will have cooled enough to do no injury. But if set on the stove or radiator to keep at boiling point, when the heat did once penetrate through it would kill the Canna germ the same as any other germ.

“Please tell me how to make the Heliotrope fragrant?”

I cannot. When the Almighty makes a Rose without beauty, or a Heliotrope without fragrance, it is useless for mortal man to interfere.

“Please tell me how to graft Roses, Oranges, Abutilons, Oleanders and ever so many more things like that all together. I think a dozen things like that all growing on the same bush would be a great curiosity.”

It would indeed, but you will never see it, nor will anyone else. Some dissimilar looking plants are sometimes grafted together for the curiosity of the matter. Even then it will be found that they are botanically related. Thus, the Ash, Privet and Lilac can be grafted, being cousins. Nature never crosses the deadline, however. Only members of the same general family can be grafted together.

Refractory Night-Blooming Cereus.—Night-blooming Cereus is not a difficult plant to grow but is sometimes contrary about blooming. A great many persons water their Cereus about the same the year around. They never give it a rest. These are the cases where the Night-blooming Cereus takes its revenge by long continued barrenness. Keep the Cereus at semi-rest through early and mid-summer, giving only water enough to keep its tissues plump. In this way it will ripen up its wood and will be ready to set bloom buds at its next period of activity.

Cinnamon Vine.—“Is the cinnamon vine worth growing? Is it hardy? Does it spread? Are its flowers pretty?”

In its place and well-grown the Cinnamon Vine is a good thing. It does not like hard, poor soil, and would hardly be recognized as the same thing as a vine of it grown in rich mellow soil. It is hardy, it spreads like a scandal, and is as hard to get rid of. Its flowers are so utterly insignificant that no one would ever notice them were it not for the delicious cinnamon odor that they diffuse. There are situations where a spreading mass of vines is what is wanted. For such a place this vine with its pretty foliage and sweet scent is well fitted.

Trouble for Nothing.—A novice in flower growing begins in a modest way to grow house plants. She follows the rule for proper proportions of loam, sand and manure, but before she can pot her plants some wiseacre tells her she must sift all this dirt. When that is done another adviser tells her she must bake this soil or it will be full of angle-worms. There is no merit in making the processes of flower culture as hard as possible. It

was good advice to proportion the different elements so as to have a rich, mellow, porous soil. The rest of it was not only needless labor but actual mischief. A few plants do better in sifted soil. The majority do better in a loose, mellow, but not sifted soil. Experts give a long explanation as to why this is so, showing that the particles of the unsifted earth are fibrous, while the sifted soil is left in rounded atoms, etc. I do not pretend to know as to this, but I found out years ago by experiment that sifted soil was no improvement over merely well pulverized earth for most plants. Nor is there any necessity for baking all the soil used in potting. It is easy enough to get earth that is free from angle-worms, and if they do appear, lime water will soon finish them.

Failures With Fertilizers: Application.

A correspondent of Coleman's Rural World, writing from Mississippi, set out some of the causes of failures with commercial fertilizers. Most of his article is as applicable to Florida as to Mississippi. About the only exception being what is said about using fertilizer in the fall. In this state it is best to use it when the crops are growing, if you have winter crops a fall application of fertilizer is as necessary as a spring application is in other places.

In the application of commercial fertilizers (or even stable manure) there is a right and a wrong time in which to apply them; and a right and wrong way in which to apply them, and in this instance “time” and “method” are of such vital importance as to oftentimes be the determining or controlling factor upon which hinges the success or failure, profit or loss, of the application.

Where there is a financial loss following their use, it is reasonable to suppose that the loser will hunt around a little for something or somebody that can be made to serve as a “scapegoat,” and upon which he will try to shoulder all the blame; and this, oftentimes, when he alone is to blame in the matter: First, for using a wrong kind of fertilizer! second, for applying it at a wrong time, and third, last, but by no means least, applying it in a wrong manner. For instance, where the wrong kind of fertilizing agents are employed, we would mention the application of nitrogenous fertilizers, as nitrate of soda, cottonseed meal, hen manure or stable manure, or even a complete fertilizer, to lands that already contain an excess of nitrogen, as evidenced by excessive growth of weed, straw, stalk, vine, foliage, and woody growth generally. It is like “carrying coals to Newcastle,” or “potatoes to Ireland,” to apply to any soil that which it already contains to excess.

For instance, where fertilizing agents are applied at a wrong time, we would cite the reader to cases where the application of phosphates and the potash salts is deferred until spring, when it might just as easily, and as cheaply, as well as with better prospects of positive profits, have been applied in the fall or winter months. While fall and winter is the “right time” for the application of phosphates, and the potash salts, in order that best results may follow their use, it is not the “best” time nor the “right” time, but, on the contrary, it is the “wrong” time to apply nitrogenous fertilizing agents of any kind (except it be a small amount to fall-planted crops, as wheat, oats, barley, rye, etc.) in the fall or winter. It is better to defer the application until spring; and, in the case of such extremely soluble and quick-acting substances as nitrate of soda, it is better to make the application after the crop is up.

As instances to how fertilizers may be applied in a wrong manner, we would cite the reader to too diminutive applications, as 100, 150 or 200

pounds of a low-grade (8-2-, 8-1-1-2 or 8-2-2) fertilizer per acre. Low-grade fertilizers are not profitable, even when liberally applied; for the reason that: First, the amount of actual plant food applied per acre (from 10 to 24 pounds—sum total) is so infinitesimally small as to be hardly appreciable. The wonder is that in these diminutive doses, they increase crops at all; and the fact that they do, certainly speaks volumes in their favor; and goes to show what they would be capable of accomplishing when liberally, yet judiciously, applied. Second, in the low-grade fertilizer there is so much useless material inevitably present in them, on which the freight rates are just as high as on the actual plant food contained therein, that it rarely exceeds 100 pounds phosphoric acid, 40 pounds nitrogen, and 40 pounds potash to the ton of 2,000 pounds; the balance, 1,760 pounds, being of no value to the farmer or his crops. It is an impossibility to use low-grade materials and make a high-grade fertilizer out of them.

Another fact that should be born in mind is, that, let the application be large or small, crops never remove from the soil all the fertilizers supplied them; hence the necessity for applying them in excess of any and all demands the crop to be planted can possibly make upon them, and this is just exactly what 100 or 200 pounds of low-grade fertilizer will never do. It would require 600, 800 or 1,000 pounds of a high-grade fertilizer analyzing 10-3-4, 10-3-5, or 10-3-6 to do it; and, given a soil with vegetable matter in abundance in it, these latter high-grade fertilizers, although higher in price, are really the cheapest; and the more liberal applications above mentioned are decidedly the most profitable. Why so? Because, while feeding the crops, they are at the same time enriching the soil; while the 100 or 200 pounds of low-grade fertilizer are just as surely impoverishing the soil.

Last, but by no means least, we propose to briefly consider the method of application, and its bearing upon the degree of success or failure following their use. In my experience, if you want to fail, either partially or wholly, then apply in “hill” or “drill,” letting the caustic chemicals come in immediate contact with the seed, and the concentrated, and sometimes actually, caustic “nutrient solution” come in contact with the tender rootlets, causing the plants to “fire,” and you will be apt to get your wish, i. e., failure. But, if you wish to succeed with them, in almost every instance we would advise broadcast application, then plow, disk and harrow them in, not exceeding three inches deep. Plow, disk and harrow, if necessary, again and again; and don't let up in the good work, nor “weary in well doing,” until every square inch of soil has been thoroughly broken; has received its pro rata share of the applied plant food; and has been so thoroughly “fined” by a free use of the harrow as to furnish a perfect seed bed; then plant in season, cultivate often, but shallow; lay by clean, and success is yours!

Five Millions for a Fence.

The great care that should be exercised in making introductions of new forms of life is illustrated in the plague of English rabbits that is now such a menace to agriculture in Australia that they are about to build a wire fence at an expense of \$5,000,000.

We have a mild example of the same character in the English sparrow which was originally brought over here to reduce the number of worms that were a nuisance in some Eastern cities. We do not know that they ever accomplished anything in that line, but they did multiply until now they are a great pest in all our large cities and towns.

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The following item is from the De Funiak Springs Herald:

The Government of New South Wales has spent over \$4,000,000 for all kinds of means to prevent the growth of the rabbit plague, and it has now been decided to fence in the whole country with an immense wire net.

The expense for this wire net is estimated to exceed \$5,000,000, and it is thought that the wire required for this purpose can be imported from abroad at the cost of about \$150 per mile, delivered at Sydney.

The rabbit plague is increasing from year to year, which is best shown by the fact that such an enormous amount as \$5,000,000, or nearly 10 per cent of the annual revenue of the country is to be spent for this purpose.

Farmers should not berate the grafting, stealing, public officials then see how much dirt they can sell in their oats, maybe sprinkle them a bit, or put small apples in the middle of the barrel, or fill the hogs with swill before weighing, or—well you know the rest. Be honest or quit crying thief.